



Fig. 1

Figure 4. SEQ ID NO: 1 - Wild Type Cytochrome C (NM\_018947)

1	Met	Gly	Asp	Val	Glu	Lys	Gly	Lys	Lys	Ile	Phe	Ile	Met	Lys	Cys	Ser
	ATG	GGT	GAT	GTT	GAG	AAA	GGC	AAG	AAG	ATT	TTT	ATT	ATG	AAG	TGT	TCC
49	Gln	Cys	His	Thr	Val	Glu	Lys	Gly	Gly	Lys	His	Lys	Thr	Gly	Pro	Asn
	CAG	TGC	CAC	ACC	GTT	GAA	AAG	GGA	GGC	AAG	CAC	AAG	ACT	GGG	CCA	AAT
97	Leu	His	Gly	Leu	Phe	Gly	Arg	Lys	Thr	Gly	Gln	Ala	Pro	Gly	Tyr	Ser
	CTC	CAT	GGT	CTC	TTT	GGG	CGG	AAG	ACA	GGT	CAG	GCC	CCT	GGA	TAC	TCT
145	Tyr	Thr	Ala	Ala	Asn	Lys	Asn	Lys	Gly	Ile	Ile	Trp	Gly	Glu	Asp	Thr
	TAC	ACA	GCC	GCC	AAT	AAG	AAC	AAA	GGC	ATC	ATC	TGG	GGA	GAG	GAT	ACA
193	Leu	Met	Glu	Tyr	Leu	Glu	Asn	Pro	Lys	Lys	Tyr	Ile	Pro	Gly	Thr	Lys
	CTG	ATG	GAG	TAT	TTG	GAG	AAT	CCC	AAG	AAG	TAC	ATC	CCT	GGA	ACA	AAA
241	Met	Ile	Phe	Val	Gly	Ile	Lys	Lys	Lys	Glu	Glu	Arg	Ala	Asp	Leu	Ile
	ATG	ATC	TTT	GTC	GGC	ATT	AAG	AAG	AAG	GAA	GAA	AGG	GCA	GAC	TTA	ATA
289	Ala	Tyr	Leu	Lys	Lys	Ala	Thr	Asn	Glu							
	GCT	TAT	CTC	AAA	AAA	GCT	ACT	AAT	GAG							

Figure 5. SEQ ID NO: 2 - Wild Type Cytochrome C (NM\_018947)

1  
Met Gly Asp Val Glu Lys Gly Lys Lys Ile Phe Ile Met Lys Cys Ser  
17  
Gln Cys His Thr Val Glu Lys Gly Gly Lys His Lys Thr Gly Pro Asn  
33  
Leu His Gly Leu Phe Gly Arg Lys Thr Gly Gln Ala Pro Gly Tyr Ser  
49  
Tyr Thr Ala Ala Asn Lys Asn Lys Gly Ile Ile Trp Gly Glu Asp Thr  
65  
Leu Met Glu Tyr Leu Glu Asn Pro Lys Lys Tyr Ile Pro Gly Thr Lys  
81  
Met Ile Phe Val Gly Ile Lys Lys Lys Glu Glu Arg Ala Asp Leu Ile  
97  
Ala Tyr Leu Lys Lys Ala Thr Asn Glu

Figure 6. SEQ ID NO: 3 TriGFP-cytochrome C K72A

1	Met	Ser	Lys	Gly	Glu	Glu	Leu	Phe	Thr	Gly	Val	Val	Pro	Ile	Leu	Val
	ATG	AGT	AAA	GGA	GAA	GAA	CTT	TTC	ACT	GGA	GTT	GTC	CCA	ATT	CTT	GTT
49	Glu	Leu	Asp	Gly	Asp	Val	Asn	Gly	His	Lys	Phe	Ser	Val	Ser	Gly	Glu
	GAA	TTA	GAT	GGT	GAT	GTT	AAT	GGG	CAC	AAA	TTT	TCT	GTC	AGT	GGA	GAG
97	Gly	Glu	Gly	Asp	Ala	Thr	Tyr	Gly	Lys	Leu	Thr	Leu	Lys	Phe	Ile	Cys
	GGT	GAA	GGT	GAT	GCA	ACA	TAC	GGA	AAA	CTT	ACC	CTT	AAA	TTT	ATT	TGC
145	Thr	Thr	Gly	Lys	Leu	Pro	Val	Pro	Trp	Pro	Thr	Leu	Val	Thr	Thr	Leu
	ACT	ACT	GGA	AAA	CTA	CCT	GTT	CCA	TGG	CCA	ACA	CTT	GTC	ACT	ACT	CTC
193	Ser	Tyr	Gly	Val	Gln	Cys	Phe	Ser	Arg	Tyr	Pro	Asp	His	Met	Lys	Arg
	TCT	TAT	GGT	GTT	CAA	TGC	TTT	TCA	AGA	TAC	CCA	GAT	CAT	ATG	AAA	CGG
241	His	Asp	Phe	Phe	Lys	Ser	Ala	Met	Pro	Glu	Gly	Tyr	Val	Gln	Glu	Arg
	CAT	GAC	TTT	TTC	AAG	AGT	GCC	ATG	CCC	GAA	GGT	TAT	GTA	CAG	GAA	AGA
289	Thr	Ile	Phe	Phe	Lys	Asp	Asp	Gly	Asn	Tyr	Lys	Thr	Arg	Ala	Glu	Val
	ACT	ATA	TTT	TTC	AAA	GAT	GAC	GGG	AAC	TAC	AAG	ACA	CGT	GCT	GAA	GTC
337	Lys	Phe	Glu	Gly	Asp	Thr	Leu	Val	Asn	Arg	Ile	Glu	Leu	Lys	Gly	Ile
	AAG	TTT	GAA	GGT	GAT	ACC	CTT	GTT	AAT	AGA	ATC	GAG	TTA	AAA	GGT	ATT
385	Asp	Phe	Lys	Glu	Asp	Gly	Asn	Ile	Leu	Gly	His	Lys	Leu	Glu	Tyr	Asn
	GAT	TTT	AAA	GAA	GAT	GGA	AAC	ATT	CTT	GGA	CAC	AAA	TTG	GAA	TAC	AAC
433	Tyr	Asn	Ser	His	Asn	Val	Tyr	Ile	Met	Ala	Asp	Lys	Gln	Lys	Asn	Gly
	TAT	AAC	TCA	CAC	AAT	GTA	TAC	ATC	ATG	GCA	GAC	AAA	CAA	AAG	AAT	GGA
481	Ile	Lys	Val	Asn	Phe	Lys	Ile	Arg	His	Asn	Ile	Glu	Asp	Gly	Gly	Val
	ATC	AAA	GTT	AAC	TTC	AAA	ATT	AGA	CAC	AAC	ATT	GAA	GAT	GGA	GGC	GTT
529	Gln	Leu	Ala	Asp	His	Tyr	Gln	Gln	Asn	Thr	Pro	Ile	Gly	Asp	Gly	Pro
	CAA	CTA	GCA	GAC	CAT	TAT	CAA	CAA	AAT	ACT	CCA	ATT	GGC	GAT	GGC	CCT
577	Val	Leu	Leu	Pro	Asp	Asn	His	Tyr	Leu	Ser	Thr	Gln	Ser	Ala	Leu	Ser
	GTC	CTT	TTA	CCA	GAC	AAC	CAT	TAC	CTG	TCC	ACA	CAA	TCT	GCC	CTT	TCG
625	Lys	Asp	Pro	Asn	Glu	Lys	Arg	Asp	His	Met	Val	Leu	Leu	Gly	Phe	Val
	AAA	GAT	CCC	AAC	GAA	AAG	AGA	GAC	CAC	ATG	GTC	CTT	CTT	GGC	TTT	GTA
673	Thr	Ala	Ala	Gly	Ile	Thr	His	Gly	Met	Asp	Glu	Leu	Tyr	Lys	Leu	Glu
	ACA	GCT	GCT	GGG	ATT	ACA	CAT	GGC	ATG	GAT	GAA	CTA	TAC	AAA	CTC	GAG
721	Asn	Ser	Thr	Met	Gly	Asp	Val	Glu	Lys	Gly	Lys	Lys	Ile	Phe	Ile	Met
	AAT	TCG	ACC	ATG	GGT	GAT	GTT	GAG	AAA	GGC	AAG	AAG	ATT	TTT	ATT	ATG
769	Lys	Cys	Ser	Gln	Cys	His	Thr	Val	Glu	Lys	Gly	Gly	Lys	His	Lys	Thr
	AAG	TGT	TCC	CAG	TGC	CAC	ACC	GTT	GAA	AAG	GGA	GGC	AAG	CAC	AAG	ACT
817	Gly	Pro	Asn	Leu	His	Gly	Leu	Phe	Gly	Arg	Lys	Thr	Gly	Gln	Ala	Pro
	GGG	CCA	AAT	CTC	CAT	GGT	CTC	TTT	GGG	CGG	AAG	ACA	GGT	CAG	GCC	CCT
	Gly	Tyr	Ser	Tyr	Thr	Ala	Ala	Asn	Lys	Asn	Lys	Gly	Ile	Ile	Trp	Gly

Docket No.: PA0394  
Inventor(s): S. Stubbs, et al.  
Title: "Cytochrome C Protein and Assay"

865 GGA TAC TCT TAC ACA GCC GCC AAT AAG AAC AAA GGC ATC ATC TGG GGA  
Glu Asp Thr Leu Met Glu Tyr Leu Glu Asn Pro Ala Lys Tyr Ile Pro  
913 GAG GAT ACA CTG ATG GAG TAT TTG GAG AAT CCC GCC AAG TAC ATC CCT  
Gly Thr Lys Met Ile Phe Val Gly Ile Lys Lys Lys Glu Glu Arg Ala  
961 GGA ACA AAA ATG ATC TTT GTC GGC ATT AAG AAG AAG GAA GAA AGG GCA  
Asp Leu Ile Ala Tyr Leu Lys Lys Ala Thr Asn Glu  
1009 GAC TTA ATA GCT TAT CTC AAA AAA GCT ACT AAT GAG

Figure 7: SEQ ID NO: 4 - triGFP-cytochrome C K72A

1  
Met Ser Lys Gly Glu Glu Leu Phe Thr Gly Val Val Pro Ile Leu Val  
17  
Glu Leu Asp Gly Asp Val Asn Gly His Lys Phe Ser Val Ser Gly Glu  
33  
Gly Glu Gly Asp Ala Thr Tyr Gly Lys Leu Thr Leu Lys Phe Ile Cys  
49  
Thr Thr Gly Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr Thr Leu  
65  
Ser Tyr Gly Val Gln Cys Phe Ser Arg Tyr Pro Asp His Met Lys Arg  
81  
His Asp Phe Phe Lys Ser Ala Met Pro Glu Gly Tyr Val Gln Glu Arg  
97  
Thr Ile Phe Phe Lys Asp Asp Gly Asn Tyr Lys Thr Arg Ala Glu Val  
113  
Lys Phe Glu Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly Ile  
129  
Asp Phe Lys Glu Asp Gly Asn Ile Leu Gly His Lys Leu Glu Tyr Asn  
145  
Tyr Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys Gln Lys Asn Gly  
161  
Ile Lys Val Asn Phe Lys Ile Arg His Asn Ile Glu Asp Gly Gly Val  
177  
Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly Pro  
193  
Val Leu Leu Pro Asp Asn His Tyr Leu Ser Thr Gln Ser Ala Leu Ser  
209  
Lys Asp Pro Asn Glu Lys Arg Asp His Met Val Leu Leu Gly Phe Val  
225  
Thr Ala Ala Gly Ile Thr His Gly Met Asp Glu Leu Tyr Lys Leu Glu  
241  
Asn Ser Thr Met Gly Asp Val Glu Lys Gly Lys Lys Ile Phe Ile Met  
257  
Lys Cys Ser Gln Cys His Thr Val Glu Lys Gly Gly Lys His Lys Thr  
273  
Gly Pro Asn Leu His Gly Leu Phe Gly Arg Lys Thr Gly Gln Ala Pro  
289  
Gly Tyr Ser Tyr Thr Ala Ala Asn Lys Asn Lys Gly Ile Ile Trp Gly  
305  
Glu Asp Thr Leu Met Glu Tyr Leu Glu Asn Pro Ala Lys Tyr Ile Pro  
321  
Gly Thr Lys Met Ile Phe Val Gly Ile Lys Lys Lys Glu Glu Arg Ala  
337  
Asp Leu Ile Ala Tyr Leu Lys Lys Ala Thr Asn Glu

Figure 8. SEQ ID NO: 5 - Cytochrome C (K72A)-triGFP

	Met	Gly	Asp	Val	Glu	Lys	Gly	Lys	Lys	Ile	Phe	Ile	Met	Lys	Cys	Ser
1	ATG	GGT	GAT	GTT	GAG	AAA	GGC	AAG	AAG	ATT	TTT	ATT	ATG	AAG	TGT	TCC
	Gln	Cys	His	Thr	Val	Glu	Lys	Gly	Gly	Lys	His	Lys	Thr	Gly	Pro	Asn
49	CAG	TGC	CAC	ACC	GTT	GAA	AAG	GGA	GGC	AAG	CAC	AAG	ACT	GGG	CCA	AAT
	Leu	His	Gly	Leu	Phe	Gly	Arg	Lys	Thr	Gly	Gln	Ala	Pro	Gly	Tyr	Ser
97	CTC	CAT	GGT	CTC	TTT	GGG	CGG	AAG	ACA	GGT	CAG	GCC	CCT	GGA	TAC	TCT
	Tyr	Thr	Ala	Ala	Asn	Lys	Asn	Lys	Gly	Ile	Ile	Trp	Gly	Glu	Asp	Thr
145	TAC	ACA	GCC	GCC	AAT	AAG	AAC	AAA	GGC	ATC	ATC	TGG	GGA	GAG	GAT	ACA
	Leu	Met	Glu	Tyr	Leu	Glu	Asn	Pro	Ala	Lys	Tyr	Ile	Pro	Gly	Thr	Lys
193	CTG	ATG	GAG	TAT	TTG	GAG	AAT	CCC	GCC	AAG	TAC	ATC	CCT	GGA	ACA	AAA
	Met	Ile	Phe	Val	Gly	Ile	Lys	Lys	Lys	Glu	Glu	Arg	Ala	Asp	Leu	Ile
241	ATG	ATC	TTT	GTC	GGC	ATT	AAG	AAG	AAG	GAA	GAA	AGG	GCA	GAC	TTA	ATA
	Ala	Tyr	Leu	Lys	Lys	Ala	Thr	Asn	Glu	Gly	Arg	Pro	Gly	Met	Ser	Lys
289	GCT	TAT	CTC	AAA	AAA	GCT	ACT	AAT	GAG	GGT	CGA	CCC	GGG	ATG	AGT	AAA
	Gly	Glu	Glu	Leu	Phe	Thr	Gly	Val	Val	Pro	Ile	Leu	Val	Glu	Leu	Asp
337	GGA	GAA	GAA	CTT	TTC	ACT	GGA	GTT	GTC	CCA	ATT	CTT	GTT	GAA	TTA	GAT
	Gly	Asp	Val	Asn	Gly	His	Lys	Phe	Ser	Val	Ser	Gly	Glu	Gly	Glu	Gly
385	GGT	GAT	GTT	AAT	GGG	CAC	AAA	TTT	TCT	GTC	AGT	GGA	GAG	GGT	GAA	GGT
	Asp	Ala	Thr	Tyr	Gly	Lys	Leu	Thr	Leu	Lys	Phe	Ile	Cys	Thr	Thr	Gly
433	GAT	GCA	ACA	TAC	GGA	AAA	CTT	ACC	CTT	AAA	TTT	ATT	TGC	ACT	ACT	GGA
	Lys	Leu	Pro	Val	Pro	Trp	Pro	Thr	Leu	Val	Thr	Thr	Leu	Ser	Tyr	Gly
481	AAA	CTA	CCT	GTT	CCA	TGG	CCA	ACA	CTT	GTC	ACT	ACT	CTC	TCT	TAT	GGT
	Val	Gln	Cys	Phe	Ser	Arg	Tyr	Pro	Asp	His	Met	Lys	Arg	His	Asp	Phe
529	GTT	CAA	TGC	TTT	TCA	AGA	TAC	CCA	GAT	CAT	ATG	AAA	CGG	CAT	GAC	TTT
	Phe	Lys	Ser	Ala	Met	Pro	Glu	Gly	Tyr	Val	Gln	Glu	Arg	Thr	Ile	Phe
577	TTC	AAG	AGT	GCC	ATG	CCC	GAA	GGT	TAT	GTA	CAG	GAA	AGA	ACT	ATA	TTT
	Phe	Lys	Asp	Asp	Gly	Asn	Tyr	Lys	Thr	Arg	Ala	Glu	Val	Lys	Phe	Glu
625	TTC	AAA	GAT	GAC	GGG	AAC	TAC	AAG	ACA	CGT	GCT	GAA	GTC	AAG	TTT	GAA
	Gly	Asp	Thr	Leu	Val	Asn	Arg	Ile	Glu	Leu	Lys	Gly	Ile	Asp	Phe	Lys
673	GGT	GAT	ACC	CTT	GTT	AAT	AGA	ATC	GAG	TTA	AAA	GGT	ATT	GAT	TTT	AAA
	Glu	Asp	Gly	Asn	Ile	Leu	Gly	His	Lys	Leu	Glu	Tyr	Asn	Tyr	Asn	Ser
721	GAA	GAT	GGA	AAC	ATT	CTT	GGA	CAC	AAA	TTG	GAA	TAC	AAC	TAT	AAC	TCA
	His	Asn	Val	Tyr	Ile	Met	Ala	Asp	Lys	Gln	Lys	Asn	Gly	Ile	Lys	Val
769	CAC	AAT	GTA	TAC	ATC	ATG	GCA	GAC	AAA	CAA	AAG	AAT	GGA	ATC	AAA	GTT
	Asn	Phe	Lys	Ile	Arg	His	Asn	Ile	Glu	Asp	Gly	Gly	Val	Gln	Leu	Ala
817	AAC	TTC	AAA	ATT	AGA	CAC	AAC	ATT	GAA	GAT	GGA	GGC	GTT	CAA	CTA	GCA
	Asp	His	Tyr	Gln	Gln	Asn	Thr	Pro	Ile	Gly	Asp	Gly	Pro	Val	Leu	Leu

Docket No.: PA0394  
Inventor(s): S. Stubbs, et al.  
Title: "Cytochrome C Protein and Assay"

865 GAC CAT TAT CAA CAA AAT ACT CCA ATT GGC GAT GGC CCT GTC CTT TTA  
Pro Asp Asn His Tyr Leu Ser Thr Gln Ser Ala Leu Ser Lys Asp Pro  
913 CCA GAC AAC CAT TAC CTG TCC ACA CAA TCT GCC CTT TCG AAA GAT CCC  
Asn Glu Lys Arg Asp His Met Val Leu Leu Gly Phe Val Thr Ala Ala  
961 AAC GAA AAG AGA GAC CAC ATG GTC CTT CTT GGC TTT GTA ACA GCT GCT  
Gly Ile Thr His Gly Met Asp Glu Leu Tyr Lys  
1009 GGG ATT ACA CAT GGC ATG GAT GAA CTA TAC AAA



Figure 9. SEQ ID NO: 6 - Cytochrome C (K72A)-trigFP

1  
Met Gly Asp Val Glu Lys Gly Lys Lys Ile Phe Ile Met Lys Cys Ser  
17  
Gln Cys His Thr Val Glu Lys Gly Gly Lys His Lys Thr Gly Pro Asn  
33  
Leu His Gly Leu Phe Gly Arg Lys Thr Gly Gln Ala Pro Gly Tyr Ser  
49  
Tyr Thr Ala Ala Asn Lys Asn Lys Gly Ile Ile Trp Gly Glu Asp Thr  
65  
Leu Met Glu Tyr Leu Glu Asn Pro Ala Lys Tyr Ile Pro Gly Thr Lys  
81  
Met Ile Phe Val Gly Ile Lys Lys Lys Glu Glu Arg Ala Asp Leu Ile  
97  
Ala Tyr Leu Lys Lys Ala Thr Asn Glu Gly Arg Pro Gly Met Ser Lys  
113  
Gly Glu Glu Leu Phe Thr Gly Val Val Pro Ile Leu Val Glu Leu Asp  
129  
Gly Asp Val Asn Gly His Lys Phe Ser Val Ser Gly Glu Gly Glu Gly  
145  
Asp Ala Thr Tyr Gly Lys Leu Thr Leu Lys Phe Ile Cys Thr Thr Gly  
161  
Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr Thr Leu Ser Tyr Gly  
177  
Val Gln Cys Phe Ser Arg Tyr Pro Asp His Met Lys Arg His Asp Phe  
193  
Phe Lys Ser Ala Met Pro Glu Gly Tyr Val Gln Glu Arg Thr Ile Phe  
209  
Phe Lys Asp Asp Gly Asn Tyr Lys Thr Arg Ala Glu Val Lys Phe Glu  
225  
Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly Ile Asp Phe Lys  
241  
Glu Asp Gly Asn Ile Leu Gly His Lys Leu Glu Tyr Asn Tyr Asn Ser  
257  
His Asn Val Tyr Ile Met Ala Asp Lys Gln Lys Asn Gly Ile Lys Val  
273  
Asn Phe Lys Ile Arg His Asn Ile Glu Asp Gly Gly Val Gln Leu Ala  
289  
Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly Pro Val Leu Leu  
305  
Pro Asp Asn His Tyr Leu Ser Thr Gln Ser Ala Leu Ser Lys Asp Pro  
321  
Asn Glu Lys Arg Asp His Met Val Leu Leu Gly Phe Val Thr Ala Ala  
337  
Gly Ile Thr His Gly Met Asp Glu Leu Tyr Lys

Figure 10. SEQ ID NO: 7 - TrIGFP- wild type cytochrome C

1	Met Ser Lys Gly Glu Glu Leu Phe Thr Gly Val Val Pro Ile Leu Val
	ATG AGT AAA GGA GAA GAA CTT TTC ACT GGA GTT GTC CCA ATT CTT GTT
49	Glu Leu Asp Gly Asp Val Asn Gly His Lys Phe Ser Val Ser Gly Glu
	GAA TTA GAT GGT GAT GTT AAT GGG CAC AAA TTT TCT GTC AGT GGA GAG
97	Gly Glu Gly Asp Ala Thr Tyr Gly Lys Leu Thr Leu Lys Phe Ile Cys
	GGT GAA GGT GAT GCA ACA TAC GGA AAA CTT ACC CTT AAA TTT ATT TGC
145	Thr Thr Gly Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr Thr Leu
	ACT ACT GGA AAA CTA CCT GTT CCA TGG CCA ACA CTT GTC ACT ACT CTC
193	Ser Tyr Gly Val Gln Cys Phe Ser Arg Tyr Pro Asp His Met Lys Arg
	TCT TAT GGT GTT CAA TGC TTT TCA AGA TAC CCA GAT CAT ATG AAA CGG
241	His Asp Phe Phe Lys Ser Ala Met Pro Glu Gly Tyr Val Gln Glu Arg
	CAT GAC TTT TTC AAG AGT GCC ATG CCC GAA GGT TAT GTA CAG GAA AGA
289	Thr Ile Phe Phe Lys Asp Asp Gly Asn Tyr Lys Thr Arg Ala Glu Val
	ACT ATA TTT TTC AAA GAT GAC GGG AAC TAC AAG ACA CGT GCT GAA GTC
337	Lys Phe Glu Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly Ile
	AAG TTT GAA GGT GAT ACC CTT GTT AAT AGA ATC GAG TTA AAA GGT ATT
385	Asp Phe Lys Glu Asp Gly Asn Ile Leu Gly His Lys Leu Glu Tyr Asn
	GAT TTT AAA GAA GAT GGA AAC ATT CTT GGA CAC AAA TTG GAA TAC AAC
433	Tyr Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys Gln Lys Asn Gly
	TAT AAC TCA CAC AAT GTA TAC ATC ATG GCA GAC AAA CAA AAG AAT GGA
481	Ile Lys Val Asn Phe Lys Ile Arg His Asn Ile Glu Asp Gly Gly Val
	ATC AAA GTT AAC TTC AAA ATT AGA CAC AAC ATT GAA GAT GGA GGC GTT
529	Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly Pro
	CAA CTA GCA GAC CAT TAT CAA CAA AAT ACT CCA ATT GGC GAT GGC CCT
577	Val Leu Leu Pro Asp Asn His Tyr Leu Ser Thr Gln Ser Ala Leu Ser
	GTC CTT TTA CCA GAC AAC CAT TAC CTG TCC ACA CAA TCT GCC CTT TCG
625	Lys Asp Pro Asn Glu Lys Arg Asp His Met Val Leu Leu Gly Phe Val
	AAA GAT CCC AAC GAA AAG AGA GAC CAC ATG GTC CTT CTT GGC TTT GTA
673	Thr Ala Ala Gly Ile Thr His Gly Met Asp Glu Leu Tyr Lys Leu Glu
	ACA GCT GCT GGG ATT ACA CAT GGC ATG GAT GAA CTA TAC AAA CTC GAG
721	Asn Ser Thr Met Gly Asp Val Glu Lys Gly Lys Lys Ile Phe Ile Met
	AAT TCG ACC ATG GGT GAT GTT GAG AAA GGC AAG AAG ATT TTT ATT ATG
769	Lys Cys Ser Gln Cys His Thr Val Glu Lys Gly Gly Lys His Lys Thr
	AAG TGT TCC CAG TGC CAC ACC GTT GAA AAG GGA GGC AAG CAC AAG ACT
817	Gly Pro Asn Leu His Gly Leu Phe Gly Arg Lys Thr Gly Gln Ala Pro
	GGG CCA AAT CTC CAT GGT CTC TTT GGG CGG AAG ACA GGT CAG GCC CCT
	Gly Tyr Ser Tyr Thr Ala Ala Asn Lys Asn Lys Gly Ile Ile Trp Gly

Docket No.: PA0394  
Inventor(s): S. Stubbs, et al.  
Title: "Cytochrome C Protein and Assay"

865 GGA TAC TCT TAC ACA GCC GCC AAT AAG AAC AAA GGC ATC ATC TGG GGA  
Glu Asp Thr Leu Met Glu Tyr Leu Glu Asn Pro Lys Lys Tyr Ile Pro  
913 GAG GAT ACA CTG ATG GAG TAT TTG GAG AAT CCC AAG AAG TAC ATC CCT  
Gly Thr Lys Met Ile Phe Val Gly Ile Lys Lys Lys Glu Glu Arg Ala  
961 GGA ACA AAA ATG ATC TTT GTC GGC ATT AAG AAG AAG GAA GAA AGG GCA  
Asp Leu Ile Ala Tyr Leu Lys Lys Ala Thr Asn Glu  
1009 GAC TTA ATA GCT TAT CTC AAA AAA GCT ACT AAT GAG

Figure 11. SEQ ID NO: 8 - TrIGFP-wild type cytochrome C

1  
Met Ser Lys Gly Glu Glu Leu Phe Thr Gly Val Val Pro Ile Leu Val  
17  
Glu Leu Asp Gly Asp Val Asn Gly His Lys Phe Ser Val Ser Gly Glu  
33  
Gly Glu Gly Asp Ala Thr Tyr Gly Lys Leu Thr Leu Lys Phe Ile Cys  
49  
Thr Thr Gly Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr Thr Leu  
65  
Ser Tyr Gly Val Gln Cys Phe Ser Arg Tyr Pro Asp His Met Lys Arg  
81  
His Asp Phe Phe Lys Ser Ala Met Pro Glu Gly Tyr Val Gln Glu Arg  
97  
Thr Ile Phe Phe Lys Asp Asp Gly Asn Tyr Lys Thr Arg Ala Glu Val  
113  
Lys Phe Glu Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly Ile  
129  
Asp Phe Lys Glu Asp Gly Asn Ile Leu Gly His Lys Leu Glu Tyr Asn  
145  
Tyr Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys Gln Lys Asn Gly  
161  
Ile Lys Val Asn Phe Lys Ile Arg His Asn Ile Glu Asp Gly Gly Val  
177  
Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly Pro  
193  
Val Leu Leu Pro Asp Asn His Tyr Leu Ser Thr Gln Ser Ala Leu Ser  
209  
Lys Asp Pro Asn Glu Lys Arg Asp His Met Val Leu Leu Gly Phe Val  
225  
Thr Ala Ala Gly Ile Thr His Gly Met Asp Glu Leu Tyr Lys Leu Glu  
241  
Asn Ser Thr Met Gly Asp Val Glu Lys Gly Lys Lys Ile Phe Ile Met  
257  
Lys Cys Ser Gln Cys His Thr Val Glu Lys Gly Gly Lys His Lys Thr  
273  
Gly Pro Asn Leu His Gly Leu Phe Gly Arg Lys Thr Gly Gln Ala Pro  
289  
Gly Tyr Ser Tyr Thr Ala Ala Asn Lys Asn Lys Gly Ile Ile Trp Gly  
305  
Glu Asp Thr Leu Met Glu Tyr Leu Glu Asn Pro Lys Lys Tyr Ile Pro  
321  
Gly Thr Lys Met Ile Phe Val Gly Ile Lys Lys Lys Glu Glu Arg Ala  
337  
Asp Leu Ile Ala Tyr Leu Lys Lys Ala Thr Asn Glu

Figure 12. SEQ ID NO: 9 - Wild type Cytochrome C-triGFP

	Met	Gly	Asp	Val	Glu	Lys	Gly	Lys	Lys	Ile	Phe	Ile	Met	Lys	Cys	Ser
1	ATG	GGT	GAT	GTT	GAG	AAA	GGC	AAG	AAG	ATT	TTT	ATT	ATG	AAG	TGT	TCC
	Gln	Cys	His	Thr	Val	Glu	Lys	Gly	Gly	Lys	His	Lys	Thr	Gly	Pro	Asn
49	CAG	TGC	CAC	ACC	GTT	GAA	AAG	GGA	GGC	AAG	CAC	AAG	ACT	GGG	CCA	AAT
	Leu	His	Gly	Leu	Phe	Gly	Arg	Lys	Thr	Gly	Gln	Ala	Pro	Gly	Tyr	Ser
97	CTC	CAT	GGT	CTC	TTT	GGG	CGG	AAG	ACA	GGT	CAG	GCC	CCT	GGA	TAC	TCT
	Tyr	Thr	Ala	Ala	Asn	Lys	Asn	Lys	Gly	Ile	Ile	Trp	Gly	Glu	Asp	Thr
145	TAC	ACA	GCC	GCC	AAT	AAG	AAC	AAA	GGC	ATC	ATC	TGG	GGA	GAG	GAT	ACA
	Leu	Met	Glu	Tyr	Leu	Glu	Asn	Pro	Lys	Lys	Tyr	Ile	Pro	Gly	Thr	Lys
193	CTG	ATG	GAG	TAT	TTG	GAG	AAT	CCC	AAG	AAG	TAC	ATC	CCT	GGA	ACA	AAA
	Met	Ile	Phe	Val	Gly	Ile	Lys	Lys	Lys	Glu	Glu	Arg	Ala	Asp	Leu	Ile
241	ATG	ATC	TTT	GTC	GGC	ATT	AAG	AAG	AAG	GAA	GAA	AGG	GCA	GAC	TTA	ATA
	Ala	Tyr	Leu	Lys	Lys	Ala	Thr	Asn	Glu	Gly	Arg	Pro	Gly	Met	Ser	Lys
289	GCT	TAT	CTC	AAA	AAA	GCT	ACT	AAT	GAG	GGT	CGA	CCC	GGG	ATG	AGT	AAA
	Gly	Glu	Glu	Leu	Phe	Thr	Gly	Val	Val	Pro	Ile	Leu	Val	Glu	Leu	Asp
337	GGA	GAA	GAA	CTT	TTC	ACT	GGA	GTT	GTC	CCA	ATT	CTT	GTT	GAA	TTA	GAT
	Gly	Asp	Val	Asn	Gly	His	Lys	Phe	Ser	Val	Ser	Gly	Glu	Gly	Glu	Gly
385	GGT	GAT	GTT	AAT	GGG	CAC	AAA	TTT	TCT	GTC	AGT	GGA	GAG	GGT	GAA	GGT
	Asp	Ala	Thr	Tyr	Gly	Lys	Leu	Thr	Leu	Lys	Phe	Ile	Cys	Thr	Thr	Gly
433	GAT	GCA	ACA	TAC	GGA	AAA	CTT	ACC	CTT	AAA	TTT	ATT	TGC	ACT	ACT	GGA
	Lys	Leu	Pro	Val	Pro	Trp	Pro	Thr	Leu	Val	Thr	Thr	Leu	Ser	Tyr	Gly
481	AAA	CTA	CCT	GTT	CCA	TGG	CCA	ACA	CTT	GTC	ACT	ACT	CTC	TCT	TAT	GGT
	Val	Gln	Cys	Phe	Ser	Arg	Tyr	Pro	Asp	His	Met	Lys	Arg	His	Asp	Phe
529	GTT	CAA	TGC	TTT	TCA	AGA	TAC	CCA	GAT	CAT	ATG	AAA	CCG	CAT	GAC	TTT
	Phe	Lys	Ser	Ala	Met	Pro	Glu	Gly	Tyr	Val	Gln	Glu	Arg	Thr	Ile	Phe
577	TTC	AAG	AGT	GCC	ATG	CCC	GAA	GGT	TAT	GTA	CAG	GAA	AGA	ACT	ATA	TTT
	Phe	Lys	Asp	Asp	Gly	Asn	Tyr	Lys	Thr	Arg	Ala	Glu	Val	Lys	Phe	Glu
625	TTC	AAA	GAT	GAC	GGG	AAC	TAC	AAG	ACA	CGT	GCT	GAA	GTC	AAG	TTT	GAA
	Gly	Asp	Thr	Leu	Val	Asn	Arg	Ile	Glu	Leu	Lys	Gly	Ile	Asp	Phe	Lys
673	GGT	GAT	ACC	CTT	GTT	AAT	AGA	ATC	GAG	TTA	AAA	GGT	ATT	GAT	TTT	AAA
	Glu	Asp	Gly	Asn	Ile	Leu	Gly	His	Lys	Leu	Glu	Tyr	Asn	Tyr	Asn	Ser
721	GAA	GAT	GGA	AAC	ATT	CTT	GGA	CAC	AAA	TTG	GAA	TAC	AAC	TAT	AAC	TCA
	His	Asn	Val	Tyr	Ile	Met	Ala	Asp	Lys	Gln	Lys	Asn	Gly	Ile	Lys	Val
769	CAC	AAT	GTA	TAC	ATC	ATG	GCA	GAC	AAA	CAA	AAG	AAT	GGA	ATC	AAA	GTT
	Asn	Phe	Lys	Ile	Arg	His	Asn	Ile	Glu	Asp	Gly	Gly	Val	Gln	Leu	Ala
817	AAC	TTC	AAA	ATT	AGA	CAC	AAC	ATT	GAA	GAT	GGA	GGC	GTT	CAA	CTA	GCA
	Asp	His	Tyr	Gln	Gln	Asn	Thr	Pro	Ile	Gly	Asp	Gly	Pro	Val	Leu	Leu

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Inventor(s): S. Stubbs, et al.  
Title: "Cytochrome C Protein and Assay"

865 GAC CAT TAT CAA CAA AAT ACT CCA ATT GGC GAT GGC CCT GTC CTT TTA  
Pro Asp Asn His Tyr Leu Ser Thr Gln Ser Ala Leu Ser Lys Asp Pro  
913 CCA GAC AAC CAT TAC CTG TCC ACA CAA TCT GCC CTT TCG AAA GAT CCC  
Asn Glu Lys Arg Asp His Met Val Leu Leu Gly Phe Val Thr Ala Ala  
961 AAC GAA AAG AGA GAC CAC ATG GTC CTT CTT GGC TTT GTA ACA GCT GCT  
Gly Ile Thr His Gly Met Asp Glu Leu Tyr Lys  
1009 GGG ATT ACA CAT GGC ATG GAT GAA CTA TAC AAA

Figure 13. SEQ ID NO: 10 - Wild Type Cytochrome C-triGFP

1  
Met Gly Asp Val Glu Lys Gly Lys Lys Ile Phe Ile Met Lys Cys Ser  
17  
Gln Cys His Thr Val Glu Lys Gly Gly Lys His Lys Thr Gly Pro Asn  
33  
Leu His Gly Leu Phe Gly Arg Lys Thr Gly Gln Ala Pro Gly Tyr Ser  
49  
Tyr Thr Ala Ala Asn Lys Asn Lys Gly Ile Ile Trp Gly Glu Asp Thr  
65  
Leu Met Glu Tyr Leu Glu Asn Pro Lys Lys Tyr Ile Pro Gly Thr Lys  
81  
Met Ile Phe Val Gly Ile Lys Lys Lys Glu Glu Arg Ala Asp Leu Ile  
97  
Ala Tyr Leu Lys Lys Ala Thr Asn Glu Gly Arg Pro Gly Met Ser Lys  
113  
Gly Glu Glu Leu Phe Thr Gly Val Val Pro Ile Leu Val Glu Leu Asp  
129  
Gly Asp Val Asn Gly His Lys Phe Ser Val Ser Gly Glu Gly Glu Gly  
145  
Asp Ala Thr Tyr Gly Lys Leu Thr Leu Lys Phe Ile Cys Thr Thr Gly  
161  
Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr Thr Leu Ser Tyr Gly  
177  
Val Gln Cys Phe Ser Arg Tyr Pro Asp His Met Lys Arg His Asp Phe  
193  
Phe Lys Ser Ala Met Pro Glu Gly Tyr Val Gln Glu Arg Thr Ile Phe  
209  
Phe Lys Asp Asp Gly Asn Tyr Lys Thr Arg Ala Glu Val Lys Phe Glu  
225  
Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly Ile Asp Phe Lys  
241  
Glu Asp Gly Asn Ile Leu Gly His Lys Leu Glu Tyr Asn Tyr Asn Ser  
257  
His Asn Val Tyr Ile Met Ala Asp Lys Gln Lys Asn Gly Ile Lys Val  
273  
Asn Phe Lys Ile Arg His Asn Ile Glu Asp Gly Gly Val Gln Leu Ala  
289  
Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly Pro Val Leu Leu  
305  
Pro Asp Asn His Tyr Leu Ser Thr Gln Ser Ala Leu Ser Lys Asp Pro  
321  
Asn Glu Lys Arg Asp His Met Val Leu Leu Gly Phe Val Thr Ala Ala  
337  
Gly Ile Thr His Gly Met Asp Glu Leu Tyr Lys